Gibney (V. P.)

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SCIATICA

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V. P. GIBNEY, A.M., M.D.

NEW YORK

WITH DISCUSSION AT PRACTITIONERS' SOCIETY, MAY 2, 1884

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THE TREATMENT OF SCIATICA BY THE STRONG GALVANIC CURRENT.[1]

THE treatment of sciatica is a subject in which the practitioner always feels a deep interest, and the knowledge of this fact induces me to seek a manifestation of that interest this evening. A discussion is what I specially desire, and while my title would direct your remarks to the strong galvanic current as a therapeutic agent, I am far from desirous that you should confine the discussion to any one agent. If my own preference for galvanism stands out conspicuously, it is because I have been fortunate enough to ensure permanent relief to the greatest number of sufferers by this one agent, and because I have been able to bring about that relief in the shortest space of time.

I would not have you infer, however, that I have not employed other means, and that I have not secured good results by the same. Next to galvanism the thermo-cautery has served me best. Fowler's solution of arsenic, in the way of drugs, has yielded an occasionally brilliant result. The hot-water douche, the faradic current, and the static electrical machine are all familiar to me as agents that sometimes afford prompt and permanent relief.

The present remarks I shall make must not be considered as a new paper, or as, indeed, an old one. I have already on two former occasions presented this

[1] Read before the Practitioners' Society, May, 1884.

subject, fortified by statistics and instructive cases. Before the New York Academy of Medicine, February 6, 1879, I presented my first paper, and detailed the histories of fifteen cases, all of which were published in the *American Practitioner*, in March and April of the same year. Before the American Medical Association, which met in New York in 1880, I presented my second paper, and gave the results of thirty-two cases, subsequently published in the Transactions. These were statistical papers, and the present one is prepared more as confirmation of my faith in the efficacy of the strong current, and as a means of offering explanation of the failures the plan has met with in the hands of other practitioners. Occasionally a medical friend tells me that he can't get the results I get. In my hospital service, where I have abundant opportunity of drilling new men, I find very often reasons of failure. I think, therefore, I am prepared to answer the objections that may be offered, and the freest criticism is invited.

Before one can judge of the value of any given therapeutic agent, a knowledge of the natural history of the disease under consideration is indispensable. It is equally important, too, that diagnosis should be at one's fingers' ends. Time and again I have heard some orthopedist say that he is treating a case of hip-disease which some other doctor had treated for sciatica. Ordinarily there is no difficulty in making a differential diagnosis. Errors in diagnosis come, as a rule, from neglected examinations. Men grow too self-reliant, place too much value on their supposed power to make a diagnosis from a few symptoms given. Let one make a physical examination, compare the functions of the two hips, search for tender points, learn the distribution of the pain, the history of paroxysms, etc., then errors will be very infrequent.

Given, then, a case of uncomplicated sciatica, acute or chronic, the treatment by the strong current, I am convinced, by still further clinical observation, will

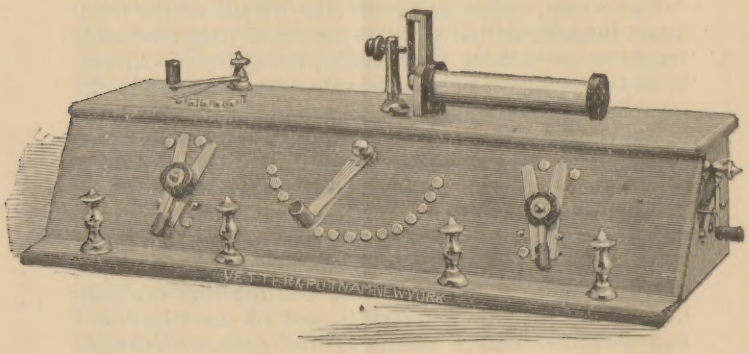
effect a cure in a short time. I am not referring specially to acute cases, but I have in mind those of long duration wherein the exacerbations are frequent and very severe. The intermissions, we all know, are often marked by almost complete relief from suffering of any kind, while in many instances the pain is constant during the waking hours. There is always a dull, heavy pain, aggravated by exertion, by temporary excitement, and by exposure. During the exacerbations the pain may be excruciating. Sciatica which is symptomatic can often be recognized by a careful examination.

I wish now, before going into the details of the treatment, to reaffirm that when rheumatism unquestionably stands in a causative relationship, the galvanic current, in my experience, only aggravates the pain, while the faradic or the static current will give decided relief.

The kind of cell that I have employed and still employ is the Leclanché cell, and I am forced to the conviction that the current from these elements is *less painful*, and exercises a more soothing influence on the nerve than that from any cell with which I am acquainted. Just why it is so I cannot tell. Some of my friends who have followed the methods I advocate tell me that the pain they induce is simply intolerable, and on investigation I find that the battery used was the ordinary portable bichromate battery in such general use. I have myself on a few occasions employed such a battery, and my patients complained bitterly of the pain, while I find it exceptional for them to complain when I employ the Leclanché current. Not that there is no pain—far from it—but it is an endurable pain, and so mild compared with the suffering induced by the neuralgia that it is borne with a kind of satisfaction. The idea that a Leclanché battery must be expensive prevents its general use. Yet I am quite sure that many of our neurologists have come to regard this as the least expensive in the end. It seldom gets out of repair, the connections are simple, and one soon becomes familiar with the strength

of the current desired. The chief objection to the practitioner is that portable batteries are not constructed with these elements, so many being necessary to the strength one needs. Again, too, in the permanent batteries so many accessories are attached by electrical instrument-makers that the expense and the complications get to be decided objections.

For several years I have used only a current selector made of plain walnut, on the face of which is a dozen or so nickel-plated buttons, and arranged in a circle, while the winch is arranged like the radius of a circle. Each



pin represents three or more cells, and the only galvanometer employed was my own hand. A polarity-changer is not necessary. In order, however, to make the battery useful for diagnostic purposes in nervous disease, I have had a very simple polarity-changer attached. Mr. Vedder, of Messrs. Vedder & Putnam, has, at my suggestion, placed in my office a very serviceable machine, and at a comparatively small cost. The cells are arranged in an open book-case on the lower shelves, while on the second shelf from the top the current selector, as represented in the accompanying cut, is placed. A faradic machine attached to the right-hand side of the

framework, and supplied by two of the Leclanché cells, is also here represented, giving a very complete instrument for the treatment of the various kinds of neuralgias.

The patient can stand, or lie on a couch, as one prefers, while the operator places the electrode from the positive pole over the exit of nerve from the sacro-sciatic notch. The nerve-trunk can be readily found by placing one thumb over the tip of the trochanter major, the tip of the middle finger (same hand) over the tuber ischii, when the tip of the index-finger fully extended will fall directly over the nerve. If now deep pressure with the index-finger thus located be made, tingling sensations in the superficial and remote distributions of the nerve will be felt. If you do not get these sensations the finger should be moved from side to side and pressure made again. Often some little time will be required to find the nerve, and when once found a mark should be made on the skin for the application of the electrode. So much in detail for the placing of the electrode of the positive pole. Make now deep pressure here, and place the other electrode over some one of the nerve-points along the limb, preferably in the locality of greatest pain. If the patient wince much or complain of pain, diminish the number of cells in the circuit, but if not, then increase the number up to the toleration point. If now the current is passing through the nerve referred sensations—paræsthesiæ—will be felt in its distribution. These referred sensations must be obtained or the treatment is inoperative. To get them it is necessary often to move the electrode (from the negative pole) about from point to point, and when secured then hold both electrodes absolutely quiet, making use of the "stabile method." We want a constant current, and the "labile method" does not secure this. It not infrequently happens that I find in my dispensary practice an incredulous assistant applying the current without ever getting these "referred sensations." The electrodes are of the usual size—

sponges on metal disks—from three-quarters to one inch in diameter for the one over trunk of nerve, and a larger one for the thigh.

I am thus particular in giving these points because we all know how results turn on the minutiæ of practice, and I have had many assistants who were baffled in their attempts to get the good results others of their number and I have obtained. By and by they give attention to details, and they are then delighted with the relief the patient experiences. Time and again I have had one of the more recent members of my staff, fresh from college, come into my examining-room and say, "Doctor, I have just succeeded in getting the tingling sensation in Mrs. So-and-so's case, and she says she feels like a new woman." Sometimes I find a man working along mechanically from day to day without any idea of art, and it is a long while before he appreciates the value to himself of the hospital position he holds.

Let me now outline the treatment of a given case—a classical case.

The patient has suffered for two or three years almost continuously with an exacerbation now marked by paroxysms coming on every two or three hours. He is able to walk only when well supported, and even then the greatest care must be exercised. I have the posterior half of the limb well exposed, seeking, in the manner above described, for the nerve-trunk, after it has emerged from the pelvis, mark the skin overlying, and apply my electrode. Before this procedure, however, I will have made myself familiar with the current I am to employ, and turn the winch so as to include about eighteen or twenty-one cells in the circuit. The positive-pole electrode having been placed at the desired point over the gluteal region, I ask the patient to indicate with his hand the locality of greatest pain. This will usually be on the posterior aspect of the thigh, near the popliteal space; sometimes about the ilio-femoral crease, sometimes below the popliteal space. Here I place my other electrode, and then

turn on more cells until the patient tells me that he can stand no more. After getting from twenty-seven to thirty-three in the circuit, my limit will usually have been reached. Then, by moving about in a small area my negative-pole electrode, I am to get the paræsthesiæ of referred sensations. These being obtained, my electrodes are held securely for ten or twelve minutes, during which time the patient will tell me how warm the sensation is, but at the same time tell me it is preferable to the "old pain." When I am ready to close the séance, I get the patient to hold the handle of the upper electrode while I turn the winch backward, so as to remove the cells from the circuit. I am now ready to remove both electrodes, and without any shock.

The skin against which the sponges have been pressing is quite red, and occasionally presents a few small vesicles. The patient gets up and begins to move the affected limb, finding to his delight that he can move it about with much greater ease. He walks out of the room with much more facility than he expected. Next morning he returns for another application, and reports that he felt very nearly well all day until toward evening, when a pretty sharp "attack" of pain came on, but it did not last long. Then toward morning he had another "attack," which lasted up to his present visit.

I repeat the "dose," and find that he can bear a little stronger current. Next morning he comes reporting only a single paroxysm, perhaps not any.

I go on with the application daily for a week or ten days, finding my patient steadily improving, the paroxysms reduced to a minimum, and even when they do appear their force is insignificant. My aim in treatment is the same that I would aim to get in treating a case of epilepsy, viz., break up the paroxysms (fits). I usually am able to do this effectually in about a fortnight, and then I discharge the patient. Sometimes the treatment will extend over a period of six or eight weeks, but this is the exception, and generally argues for an error in

the diagnosis or a faulty mode of applying the electricity.

I direct now the patient to report to me promptly on the recurrence of any paroxysms or another exacerbation. On tracing out my patients thus relieved, *i.e.*, those that do not return, I find that they have either not had a return of the pain, or a return which gave them very little annoyance, not enough, in fact, to require treatment, especially as it passed away very soon. A few who can spare the time do return and get about half-a-dozen séances more.

These suffice, and I have traced out enough cases, the final results of which I know to enable me to state that a very large per cent. are cured. I have not tabulated my later cases, but aimed to make this paper which I now present a plain statement of the methods employed.

To sum up, then: 1st. A differential diagnosis should be made between a sciatica depending on a rheumatic diathesis and one of purely idiopathic origin. The former will yield to faradism or static electricity, and will be aggravated by galvanism. The latter will be relieved by galvanism and aggravated by faradism. 2d. Daily applications of from ten to fifteen minutes each, care being taken to include the nerve in the current. 3d. The Leclanché elements give the best result. 4th. If no marked relief be obtained after a half-dozen applications, the diagnosis had better be carefully reviewed.

23 Park Avenue.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, May 2, 1884.

ROBERT F. WEIR, M.D., PRESIDENT, IN THE CHAIR.

DR. V. P. GIBNEY read a paper on

THE TREATMENT OF SCIATICA.

DR. BEVERLEY ROBINSON had treated all of his cases of sciatica with familiar methods except one, in which he resorted to stretching the nerve with benefit. So far as his limited experience went he would say that the use of the actual cautery, latterly the thermo-cautery, had given the best results, especially in relieving the pain. Probably he had not pushed the use of galvanism and faradism as far as one would who had a special inclination toward that method of treatment, but he had used it sufficiently to convince him that it was not so successful as the use of the cautery.

He had relieved patients from the liability to recurrence of attacks by the use of deep hypodermics of morphine. Chloroform had acted unfavorably in his hands. He had treated sciatica with blisters and tincture of iodine without notable effect, but with the actual cautery and deep injections of morphine he had obtained his best results.

DR. C. L. DANA said that he had notes of thirty cases of sciatica, some of which he had treated with electricity and others without electricity, at least in a systematic manner as described by Dr. Gibney. So far as electricity was concerned, he had tried Dr. Gibney's method and had had the same experience; that is, some of the patients went out shaking the leg and feeling almost well for a time, but they generally got worse toward night, and on the following day again suffered from the pain;

but by keeping up the application of electricity daily the pains were finally relieved permanently within a few days. He had, however, had some cases in which this plan of treatment had not done any good whatever. In the majority of his cases the patients had had rheumatic tendency, and perhaps that was the reason why they did not respond so well to the galvanic current.

He had not attempted to pay very much attention to the poles, but he had used usually the descending current. He had not tried faradism. The cells which he had used were zinc and carbon cells, and he had obtained the same effects as those described by Dr. Gibney. He had also used the gravity cells. He would not advise any one to get the Leclanché battery, because it soon runs down and gets spoiled. Theoretically the best battery was the gravity, because the internal resistance is about equal to the internal resistance of the body, and they balance each other. Theoretically, also, this was a practical point, and one which had already been referred to by Bartholow.

Aside from electricity he had used blisters, which had given more relief than any of the external applications which he had employed. He thought that if two or three blisters were placed along the course of the nerve, almost uniformly, the pain would be relieved.

Next to blisters came subcutaneous injections of morphine and atropine. He had used chloroform, but without good results. He had also injected the oleate of aconitia in one case with marked benefit. He had given aconite internally without special result. The internal remedy which had served him best was the oil of turpentine, a few drops administered three times a day in cases of pure sciatica, and also those with rheumatic pain. In the cases in which there was rheumatic pain the oil of gaultherium, with turpentine, was certainly very effective, and these remedies, with blisters, had, in his hands, produced relief within a short time.

Whatever the treatment might be, however, relapses were apt to occur, and, after all, patients did not get well

much before the regular time in which the disease reached its natural termination. He had used the tincture of gelsemium in one case, and it cured the patient quickly. Dr. Dana thought that what was needed most was some means of determining the pathology of the affection; whether or not it is a pure neurosis.

Dr. W. J. Morton knew of scarcely any disease which he had treated more frequently, or which had given him more trouble in treating satisfactorily, than sciatica. He agreed with Dr. Gibney concerning the special form of treatment, but it did not seem to him that it would meet with success in all cases. He thought that the first thing to be determined was the nature of the disease, as there are so many forms of sciatic pain. An acute attack, which is generally referred to some form of exposure, is generally due to a neuritis, but this variety constitutes only about one-third of the cases. He first endeavored to make up his mind as to whether the case was neuralgic from anæmia and other causes, and if so the treatment must be pursued accordingly. The ordinary sciatica he saw frequently, and immediately proceeded to treat these cases by the use of internal remedies, such as cod-liver oil, iron, caffein, perhaps stimulants, small doses of morphine, pushing the remedies as the patient could bear.

But, as a rule, the cases with which he had had to deal had been either of the rheumatic or neurotic type from exposure, and in these two classes of cases he had restricted the treatment to the use of electricity and counter-irritation.

One of the first cases in which he stretched the nerve taught him a good lesson. It was a well-recognized case in Roosevelt Hospital, and the condition of the nerve was peculiarly striking. It was swollen larger than his little finger, red, congested, and covered by tortuous veins, and in a condition of active neuritis. He stretched the nerve and the man was cured, but he had not stretched a sciatic nerve since. He had been in the

habit, in these cases of acute sciatica following some exposure, almost invariably of resorting to subcutaneous stretching of the nerve, which gives rise to very great pain ; but as soon as working of the limb was over it was followed by very great relief, and following it up seven or eight days with another manipulation, these patients get well.

He had great confidence in counter-irritation, and the form he usually selected was the thermo-cautery applied in a hundred or a hundred and fifty places along the course of the nerve. He also believed in blistering, and had tried wet-cupping. Usually, however, he used dry-cups, applying a very large cup immediately over the sciatic notch, applying an air-pump so as to make a large ecchymotic spot.

As to treatment by electricity, he had been in the habit of using the faradic current, in rheumatic cases, in the shape of a brush. He had used static electricity, but would not think of treating the acute cases by this method. In those cases which seemed to be associated with rheumatic diathesis, with a great deal of stiffness and general soreness, he had found that static electricity had given relief, as had other remedies, lasting possibly for twelve or fourteen hours ; but he did not see any special advantage in the use of static electricity in the treatment of sciatica.

There was one reason which would induce him, aside from what Dr. Gibney had said, to resort to the strong galvanic current, and it was as follows : within three months he had had three cases of neuritis in the distribution of the radial nerve, each with a tolerably similar history ; that is, violent strain, a spot of extreme tenderness in the distribution of the nerve, swollen fingers, tolerably anæsthetic, and the seat of dull, aching pain increased on use, with a disposition to extend upward so that the pain had reached as high as the elbow. He had treated those cases with galvanism, and in one resorted to what seemed to him to be a novel feature ; that is, he ap-

plied the thermo-cautery at six or eight spots sufficient to break down the epidermis, and then applied a very strong current which could be passed directly in the line of the nerve. It was the additional advantage afforded by breaking the epidermis that enabled him to apply the electrical current to the actual point in which the neuritis was situated, and in these cases of neuritis of the radial nerve it was employed successfully. The patients seemed to be practically cured, although it was too soon to determine what the ultimate results were to be.

THE PRESIDENT referred to two cases which he had treated by stretching the nerve subcutaneously, according to Nussbaum's method, in one of which relief was quite permanent, but in the other the pain returned in a short time.

DR. DANA asked Dr. Weir if in any of his cases there was evidence that the function of the nerve had been impaired, as there is after a surgical operation.

THE PRESIDENT replied that there was no evidence except burning sensation in the foot.

DR. GEORGE F. SHRADY had tried forcible subcutaneous extension in one case at St. Francis' Hospital. He etherized the patient, but did not care to bring the tibia in contact with the chin or ear, because he felt something give way in the leg, and it seemed to him to be rather a heroic operation. The patient was relieved for a week, and at the end of that time he left the hospital.

DR. MORTON asked if any of the members had had any experience in breaking the skin before applying the electrodes.

DR. DANA had not tried it, but it seemed to him that removing the skin would make it more tender and would not admit of the use of the strong current.

DR. MORTON said the cautery simply charred the epidermis without breaking through the skin.

DR. SEXTON remarked that the conversation suggested a point of inquiry, namely, whether one current is more efficacious than the other.

DR. GIBNEY remarked that, so far as his own cases were concerned, he had applied the descending current. He was not certain that one current was better than the other, but it had seemed to him that he had not obtained as satisfactory results with the ascending as with the descending current. Most of his cases were chronic, extending over a period of six or seven years; but he saw the patients during exacerbations, and thought that if the exacerbation could be relieved within a week it was good evidence that there was some relation between the treatment and the result. Of course general treatment had been adopted in rheumatic cases, or other general conditions. But in the cases to which he referred especially, the treatment consisted in the use of galvanism alone. He had been able to follow the history of some of the patients, and he was quite sure that they had not had severe exacerbations after the regular course of treatment.